

On the aerodynamic forces acting on an airfoil section with a penetrable region

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Abstract

Strict formulas for calculating the aerodynamic forces acting on a section of an airfoil with a penetrable region, through which a part of an external flow of an ideal incompressible fluid is sucked in, and on an airfoil section, from which a jet stream is blown out, in the case where these sections are in a steady-state flow without separation have been derived. Formulas for calculating the power expended for the realization of suction of a part of an external flow through an airfoil section and simultaneous blow-out of a jet stream from it are proposed. © 2006 Springer Science+Business Media, Inc.

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